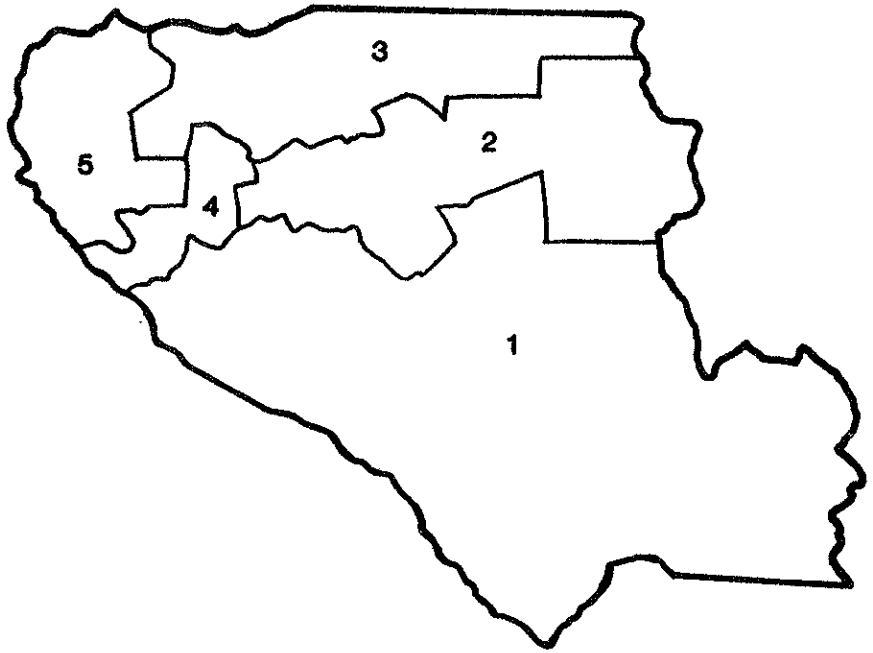
The Water Utility Enterprise
Final - June 1982

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Santa Clara Valley Water District

ROPERTY OF SANTA CLARA VALLEY
WATER DISTRICT
5750 Almaden Expressway
San Jose, California 95118

Prepared by
William J. Hoeft, PE
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DIRECTORIAL DISTRICTS

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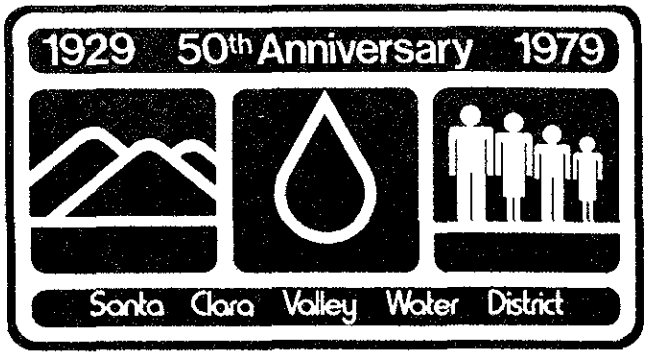
John T. O'Halloran
General Manager

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Last year's rainfall in Santa Clara County was only about 70% of normal. This lower than average supply combined with imported supplies was not enough to meet water needs in the County. Thus, it was necessary to withdraw water that had been stored in the groundwater subbasins and reservoirs in order to meet the 1980-81 water needs. Rainfall in 1981-82, on the other hand, has been significantly above average. With all of the District's reservoirs filling to capacity it is anticipated that the annual local and imported supplies will meet the County needs and provide water for storage in the groundwater subbasins and reservoirs for use in future years when even average rainfall will be inadequate to meet normal needs.

A progress report on the San Felipe Division of the Federal Central Valley Project, as of the beginning of May 1982, shows construction of the Pacheco Tunnel ahead of schedule with over 95% of the tunnel lining completed. Drilling of the Santa Clara Tunnel has been completed and contracts have been awarded for the pumps and motors for Pacheco Pumping Plant. It is anticipated that the Bureau of Reclamation will invite bids on the northern 10 miles of the Santa Clara Conduit in mid-1982 and on the Pacheco Pumping Plant in late 1982. Although construction progress has been satisfactory, accelerated Federal funding will be necessary in order for the Bureau to complete the project and deliver San Felipe water to the District by the scheduled date of 1987-88.

Progress on expansion of the District's In-County Distribution System continues as construction of the Almaden Valley Pipeline II nears completion. The District recently awarded contracts for construction of the second phase of the Cross Valley Pipeline and is in the process of increasing the capacity of the existing Penitencia Water Treatment Plant. It is also in the process of securing lands for the proposed Santa Teresa Water Treatment Plant site.

In order for the District to continue its scheduled expansion of the In-County Distribution System and provide sufficient operating revenue, it will be be necessary to increase the water and tax revenues to the levels that were indicated last year.

Following meetings with the local water retail agencies, the Santa Clara Valley Water Commission, the Agricultural Water Advisory Committee and after conducting a public hearing, the District Board of Directors adopted a schedule of water rates and tax revenues for fiscal year 1982-83 which are shown at the end of this report. The groundwater charges and equivalent basic user rates for 1982-83 are $75 per acre-foot of municipal and industrial water and $18.75 per acre-foot of agricultural water in Zones W-2, W-3.1, W-3.2, W-3.3 and W-3.5. No groundwater charges were set for Zones W-5 or W-6 in 1982-83.

John T. O'Halloran
General Manager

AN AFFIRMATIVE ACTION EMPLOYER

This is the eleventh annual report on the status of the Santa Clara Valley Water District's Water Utility Enterprise. The purpose of this report is to provide information on the following items:

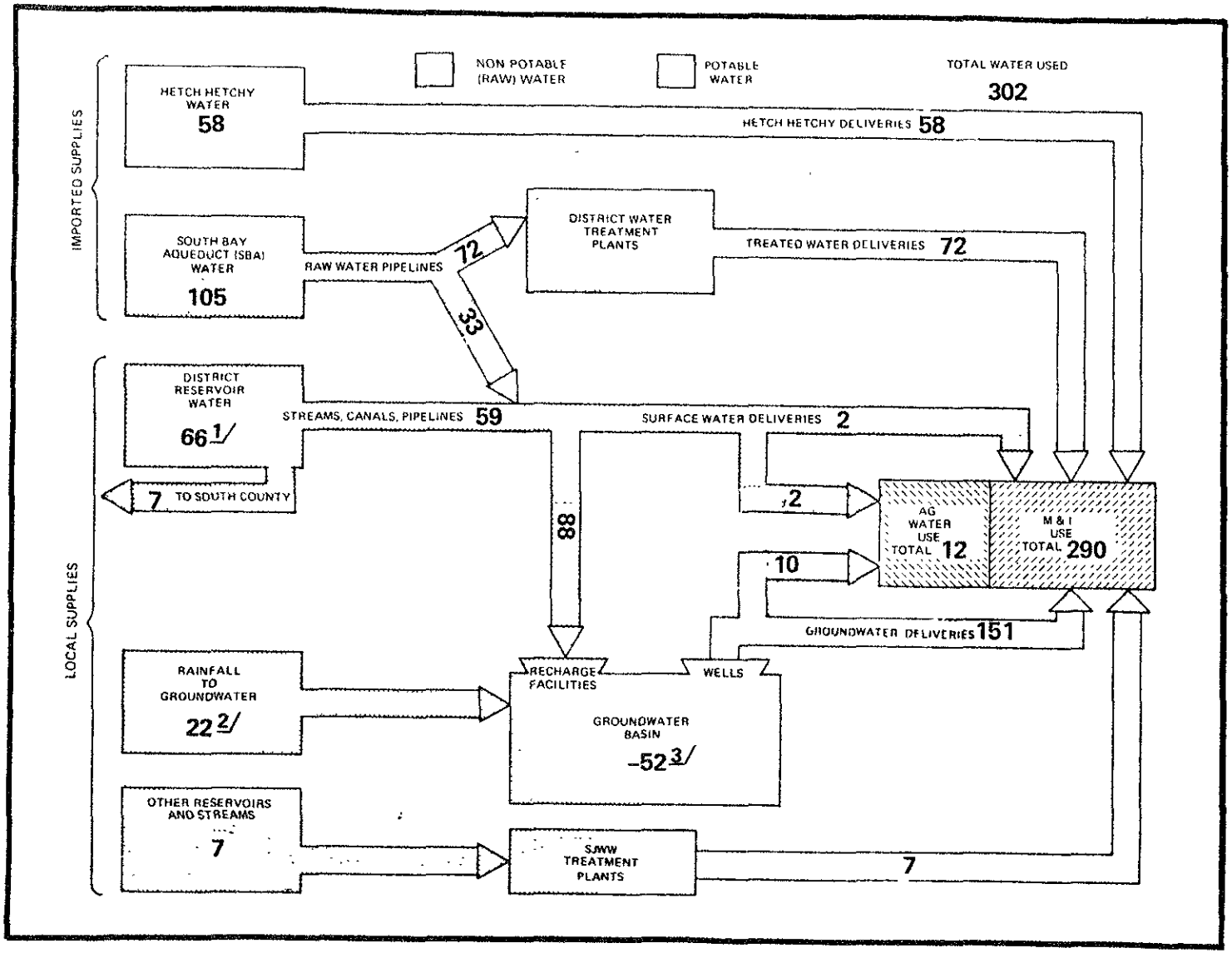
- Current and future water requirements of Santa Clara County
- Current and future water supply available to meet those requirements
- Future capital improvement needs
- Future financial needs of the Water Utility Enterprise including expenditures and a means of financing them
- Water charges to be levied in any zone or zones of the District for the next fiscal year

1980-81 Water Picture...

Rainfall in Santa Clara County was less than normal in 1980-81 and it was necessary to take water from local storage to meet water demands for the year.

The diagram to the right summarizes the water supply and use in north Santa Clara County. As shown, water use for the year was 303,000 acre-feet while the combined local and imported water supply was only 215,000 acre-feet. The deficit of 88,000 acre-feet was met by withdrawing 36,000 acre-feet from reservoir storage and 52,000 acre-feet from groundwater basin reservoirs. M&I water use increased by 4% and Ag water use increased by 20% over last year's amounts.

WATER SUPPLY AND USE
NORTH SANTA CLARA COUNTY
1980-81
(All values in 1,000 Acre-Feet)



1. Includes 36,000 acre-feet removed from reservoir storage of previous years.
2. Includes unmeasurable subsurface inflow.
3. 52,000 acre-feet were withdrawn from storage in the Santa Clara Valley Groundwater Sub-Basin.

Water Use . . .

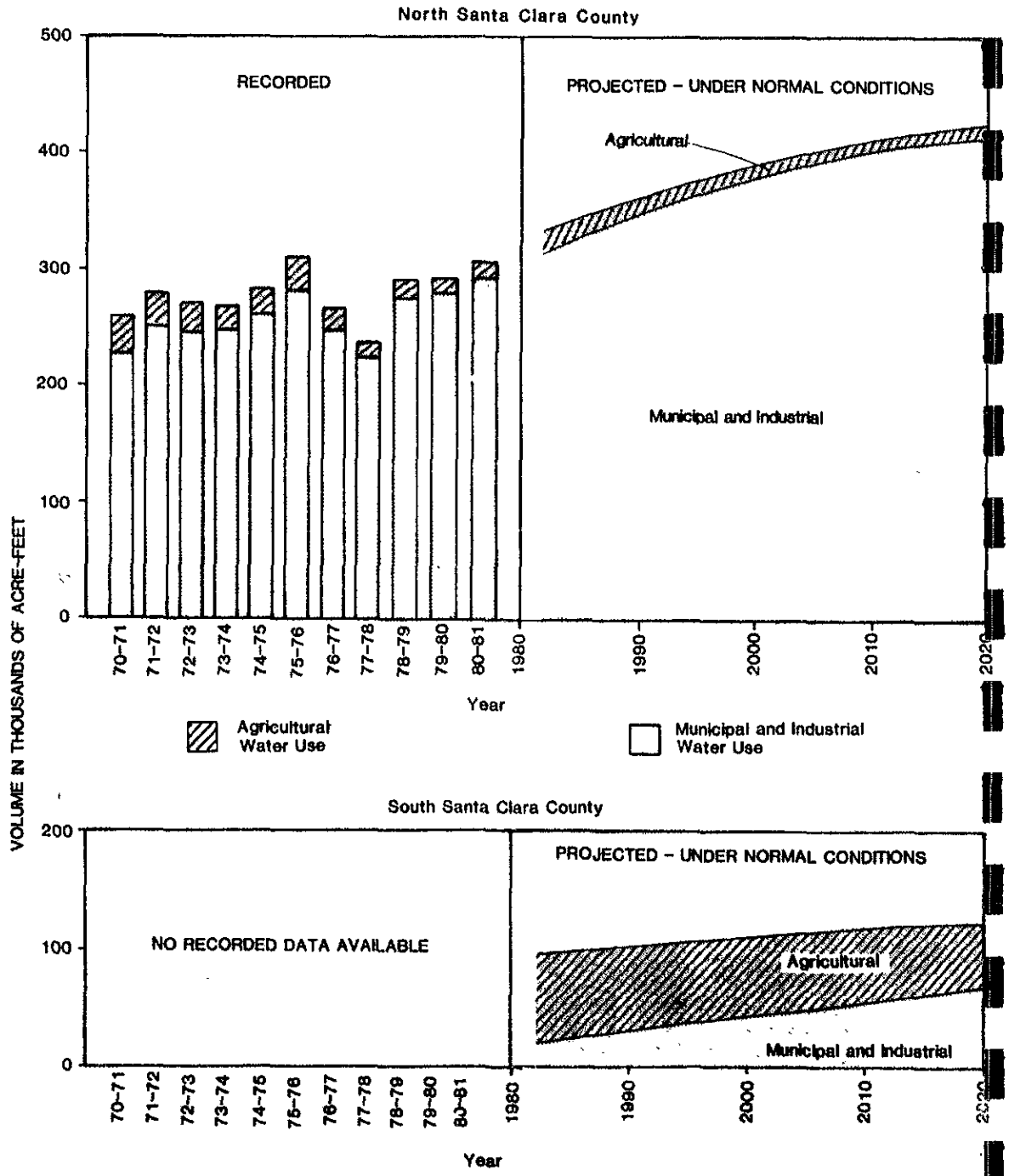
Water use in Santa Clara County is categorized as either agricultural or municipal and industrial. Recorded North County water use since 1970-71 is shown to the right.

Water use in North Santa Clara County is predominantly municipal and industrial. The projections show an increase through 2020 when the total annual water use is estimated to be 420,000 acre-feet. Agricultural water use is expected to continue to decrease through 2020.

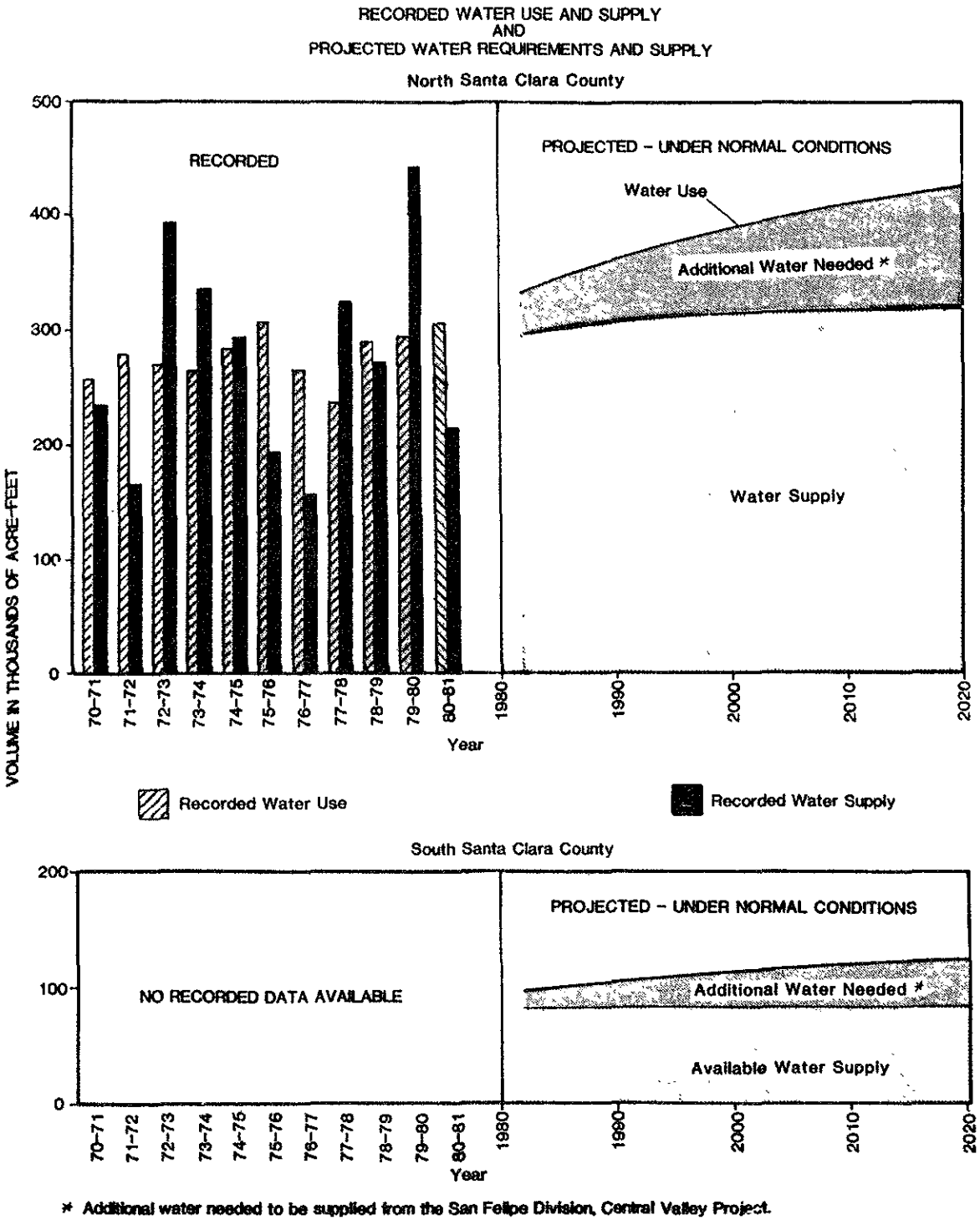
Water use in South Santa Clara County, the area south of Metcalf Road, has been primarily agricultural and has been met by available local supplies, mainly from groundwater pumping. In South Santa Clara County, it is anticipated that municipal and industrial water requirements will continue to increase while agricultural requirements will decrease. Total annual water use in South Santa Clara County is projected to increase to about 125,000 acre-feet by 2020.

Presently, portions of Zone W-5 in the South County do not have a formal groundwater production measurement program. Thus, estimates of water use in South County have been primarily based on land use and can only be considered approximate.

RECORDED AND PROJECTED WATER USE



. . . and Water Supply



* Additional water needed to be supplied from the San Felipe Division, Central Valley Project.

Present sources of water supply in North Santa Clara County consist of locally conserved water and water imported from the Hetch Hetchy and South Bay Aqueducts. The annual water supply available in North Santa Clara County since 1970-71 is shown to the left.

In 1980-81, local water supplies in the County were less than average. During this period, water was taken from reserves in the groundwater subbasins and from surface reservoirs to meet water needs.

As shown in the graphs on the left, projected average water use exceeds normal available water supply on a yearly basis. As a result, the groundwater subbasins in the County are expected to function in a water-deficit condition until supplemental water is available from the San Felipe Division in the late 1980's. In the meantime, it may become necessary to intensify the District's local water savings program to avoid excessive mining of the groundwater subbasins and possible land surface subsidence.

In-County Water Distribution System...

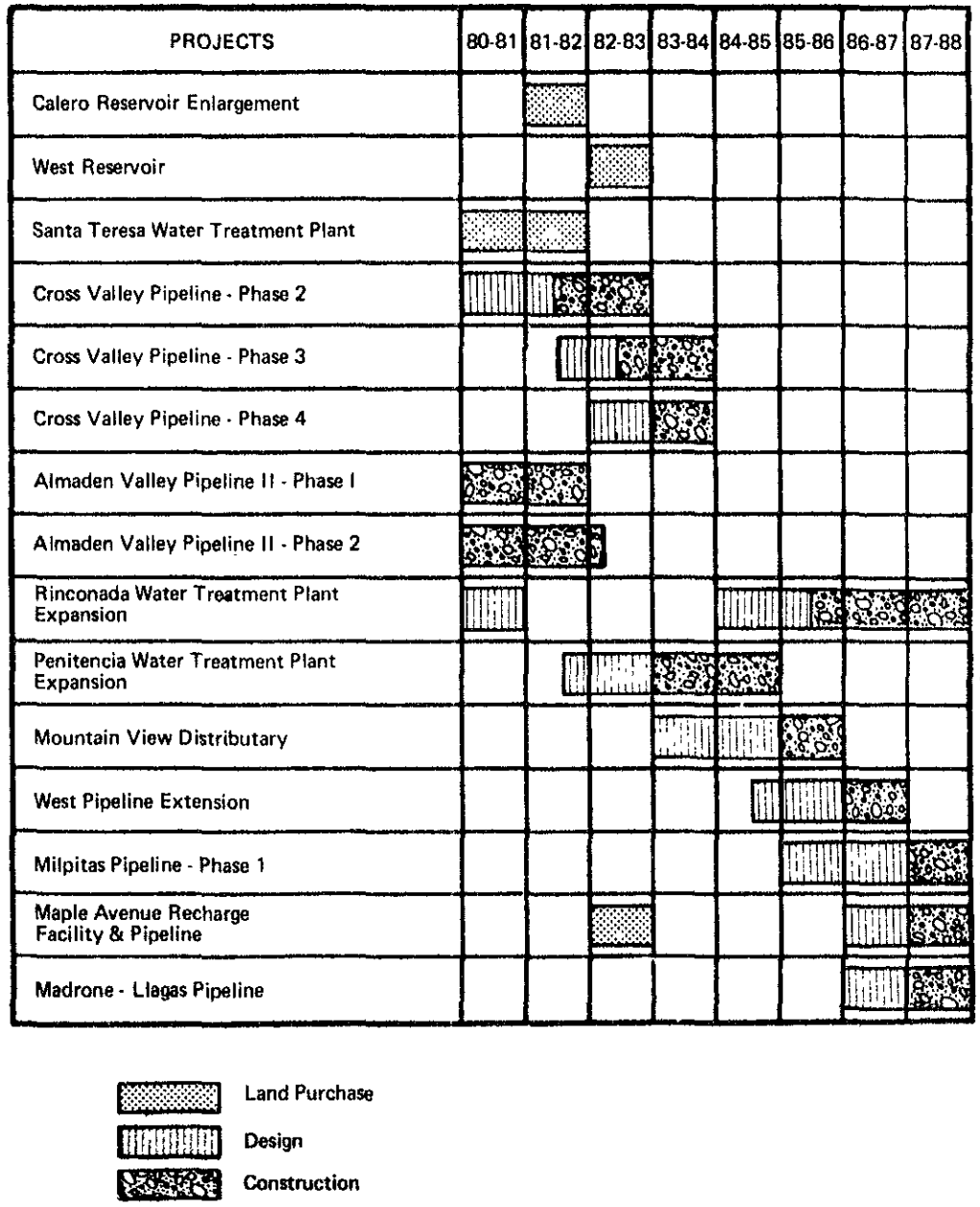
To adequately meet the projected water needs of the County, the District is expanding its In-County Distribution System by constructing several major new facilities. In 1975 the District published its master plan which presented its new facility construction program in three stages. Since that time, the construction program has been updated to reflect changing needs. Construction of the East Reservoir, the West Reservoir and the Parallel West Pipeline have been postponed from Stage I to Stage II. Also as part of the Stage II facilities, the Santa Teresa Water Treatment Plant has been added as an alternative to the Coyote Water Treatment Plant. The Snell Avenue Pipeline, the Calero Pipeline and Calero Pumping/Generation Plant have also been added as part of the Stage II facilities in conjunction with the Santa Teresa Water Treatment Plant alternative.

The table to the right shows the current schedule for land acquisition, project planning and design and construction of the proposed Stage I facilities through 1987-88.

The schedule does not include the proposed enlargement of Calero Reservoir or anticipated corrective measures for Stevens Creek Dam. The costs associated with these items are not included in the expenditure forecasts in this report.

The map on the following page shows the location of the major existing facilities of the In-County Distribution System, the Stage I facilities listed in the proposed construction schedule, and those facilities scheduled for construction in Stage II and Stage III as outlined in the Master Plan.

PROJECTED NEW FACILITY CONSTRUCTION PROGRAM (Stage 1)
FOR THE WATER UTILITY ENTERPRISE
1980-81 THROUGH 1987-88



...Improvement and Expansion



19R934

Sources of Revenue...

In 1971 the District's Board of Directors, upon recommendation of the the Santa Clara Valley Water Commission, adopted the current water pricing policy. This pricing policy incorporates two important concepts in water resources management: (1) a water pooling concept in which water for a given zone of benefit is considered a single commodity with a uniform value regardless of source or cost and (2) a water management concept in which the user pays for benefits received.

Where it is possible to determine the benefits a user directly receives, the pricing policy establishes water charges. The District's major water charges are:

- A groundwater charge and equivalent basic user charge, which are associated with the benefit of water consumption. The groundwater charge is applied to water that is extracted from the groundwater subbasins, while the basic user charge is applied to other water delivered within Zones W-2, W-3.1, W-3.2, W-3.3, and W-3.5. There are two rates, one for agricultural (Ag) water and one for municipal and industrial (M&I) water. Revenue from these charges pays for the general costs of providing water and for the capital costs of constructing in-county facilities either through "pay as you go" financing or through debt repayment of bonds and loans.

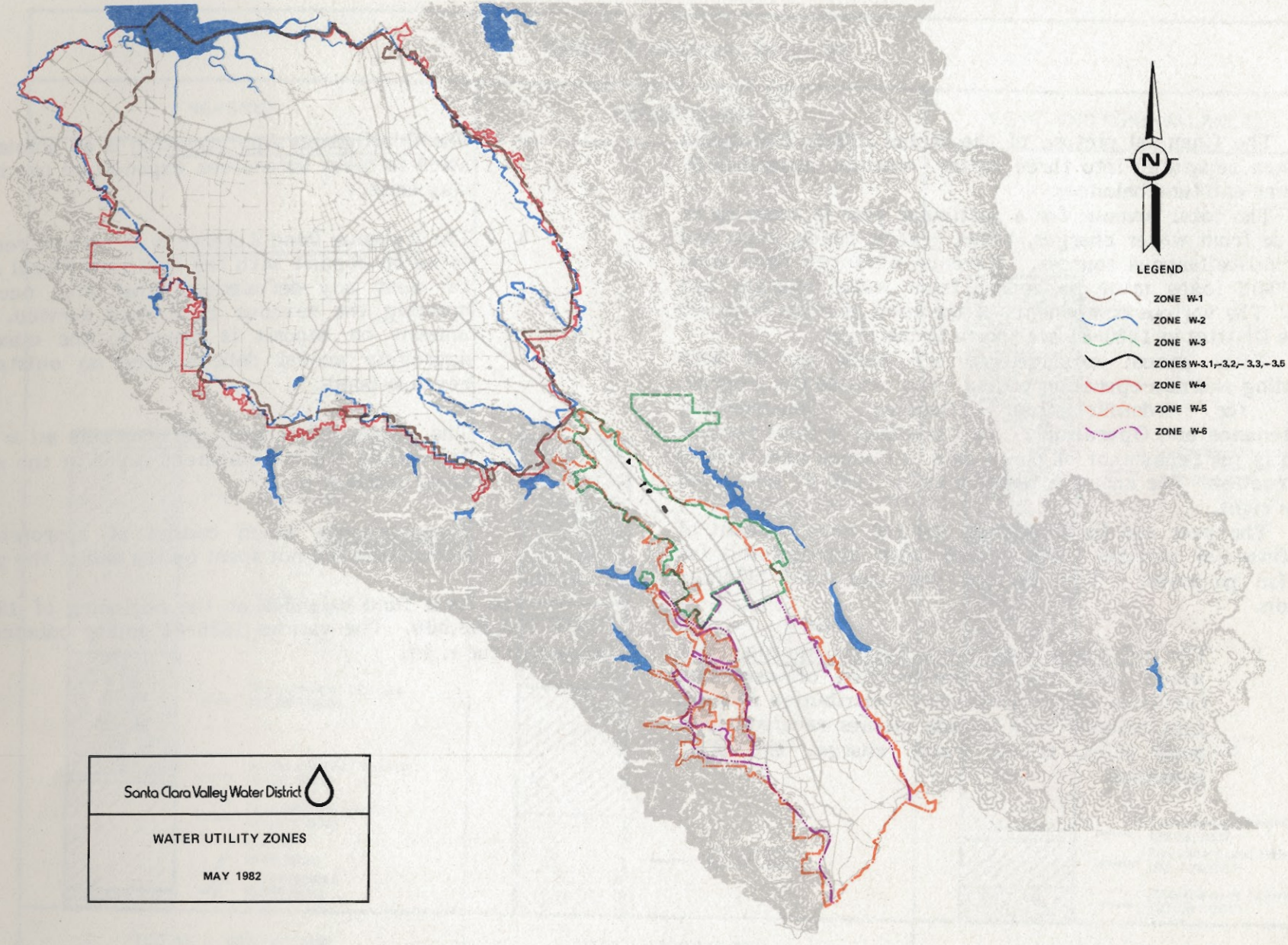
- A treated water surcharge, which is associated with the benefit of receiving treated water. It is levied in addition to the basic user charge on water delivered from the District's water treatment plants.

Several benefits are general in nature serving all or large areas of the county. Some of these benefits are the availability of imported water to the county, recreation associated with the District's reservoirs and the replenishment of the County's groundwater subbasins which has halted land surface subsidence and which provides a supply of water in drought periods. Historically, costs to provide benefits of this general nature have been recovered through countywide or zone taxes. These taxes were the countywide Water Fund Tax, the Zone W-3 Tax and the Zone W-4 Service Area Tax. Now the District receives a portion of the one percent countywide tax revenues as allocated by the County Assessor.

In accordance with Article XIII A of the State Constitution, the District has levied additional ad valorem taxes for the purposes of a) paying prior approved general obligation bond debt service and b) meeting part of the contract obligations to the State for South Bay Aqueduct water. The District's major debt service tax is levied in Zone W-1, while the State Water Project Tax is levied county-wide.

The map at the right locates the major Water Utility zones.

. . . Related to Costs of Providing Benefits



19R934

The Financial Picture...

The financial picture of the Water Utility Enterprise has been separated into three parts: revenue, expenditures and year-end fund balances.

The total revenue for a particular year is made up of revenue from water charges, taxes, grants, bonds, loans and other miscellaneous sources. Revenue advanced from bond sales and loans must be repaid from water charges and taxes. The various components of the total revenue received by the District in 1980-81 are shown to the right.

Total annual expenditures are made up of both operating and non-operating costs. They include the program costs for Administration, Planning, Construction, Maintenance and Operations. Also included is Debt Service which is the repayment of bonds sold to finance new facility construction. The actual expenditures for 1980-81 are shown to the right.

The year end fund balances are the third element of the financial picture. They have been appropriated for specific purposes. The various year-end fund balances include:

1. The In-County Distribution System Appropriation which will finance construction of necessary facilities of the In-County Distribution System. This balance may include monies received from bond sales, taxes, water charges and other revenues.

2. The Contingency Appropriation is an amount set aside to meet unforeseen expenditure needs that may arise.

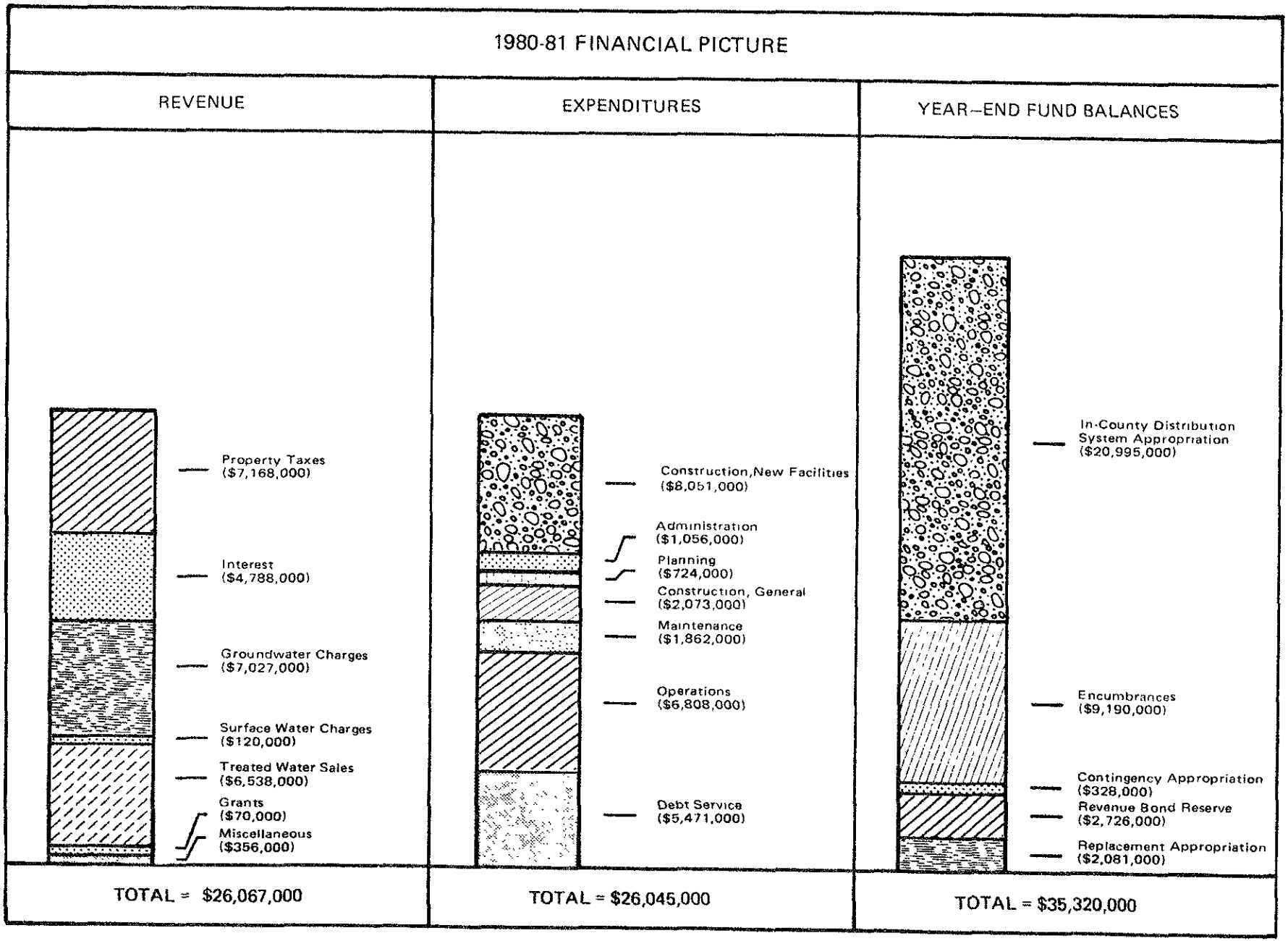
3. The Revenue Bond Reserve is an amount required to be on deposit with the District's Fiscal Agent to meet any deficiencies that may occur in meeting the revenue bond debt service. The amount on deposit is equal to the maximum aggregate annual debt service on outstanding revenue bonds.

4. The Replacement Appropriation sets aside funds to replace major equipment items at the end of their useful life.

5. Encumbrances which consist of appropriations committed but not spent by the end of the year.

The total fund balances at the beginning of 1980-81 were $35,298,000. The various 1980-81 ending balances are shown to the right.

...of the Water Utility Enterprise



19R934

Financial Estimates...

Estimated revenue, expenditures and year-end appropriations for the current fiscal year are shown in the graph on the opposite page.

Revenue from groundwater charges and raw surface water sales is collected semiannually in the month following the 6 month period in which the water was used. Therefore, the 1981-82 revenue projections incorporate the collection for groundwater extractions and raw surface water deliveries made in the latter half of 1980-81 based on groundwater charges and basic user rates of $54 per acre-foot for municipal and industrial (M&I) water and $13.50 per acre-foot for agricultural (Ag) water. The rates applicable to groundwater extractions and raw surface water deliveries made in the first half of 1981-82, which are due and payable in that year, are $70 per acre-foot for M&I water and $17.50 for Ag water.

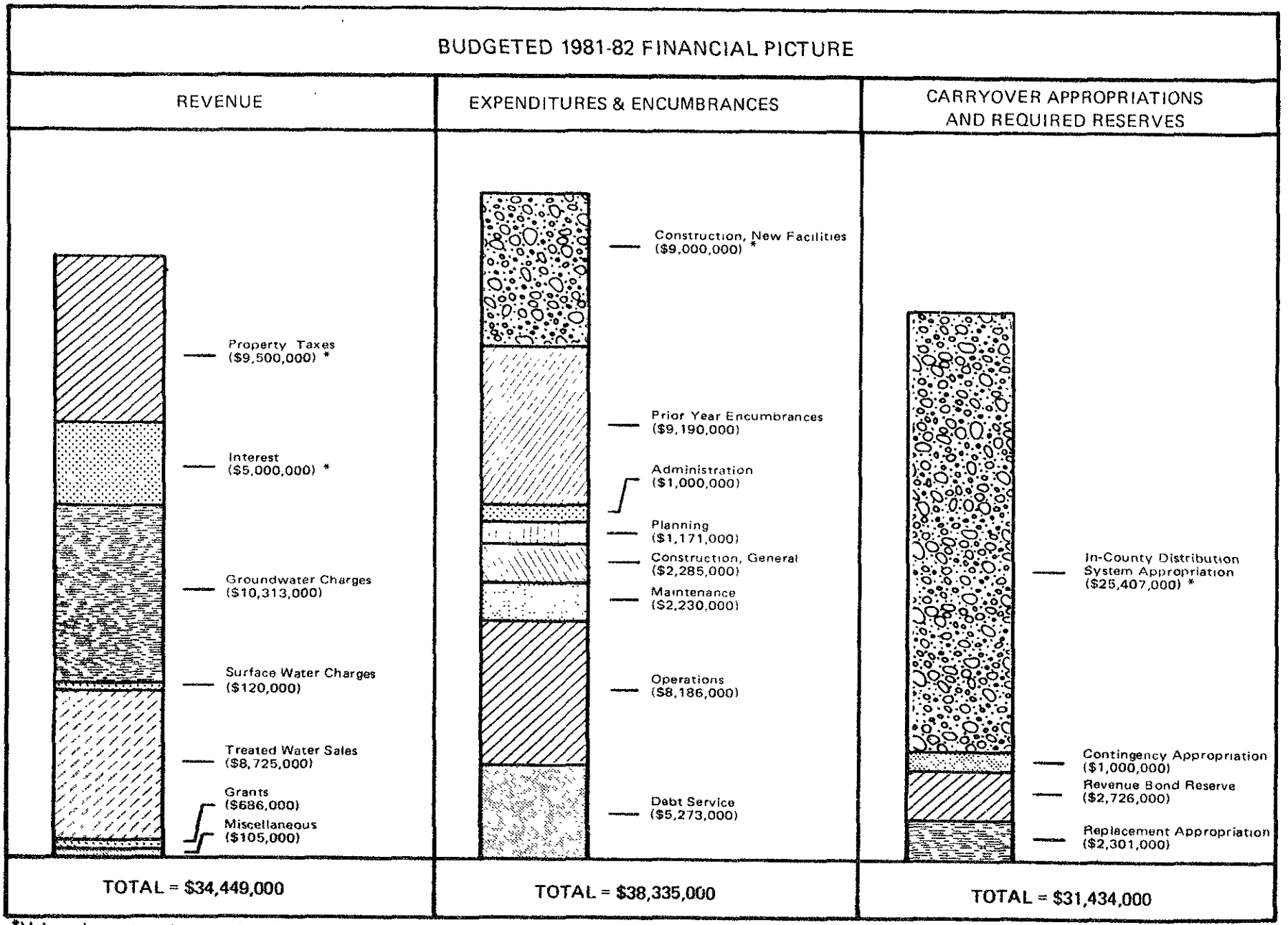
The treated water sales revenue for 1981-82 is based on the basic user rate of $70 and the treated water surcharge rate of $60 for a combined rate of $130 per acre-foot.

Estimated revenue from property taxes includes income from the one percent allocation ($3,223,000), from debt service taxes ($2,344,000), and from the State Water Project Tax ($3,933,000).

The estimated 1981-82 expenditures are as shown on the opposite page. The major expenditure for the year is for construction and inspection of the second phase of the Cross Valley Pipeline ($7,350,000) for which a contract was awarded in December of 1981. Other new facilities costs include the cost for increasing the capacity of the existing Penitencia Water Treatment Plant and completing the purchase of lands for the proposed Santa Teresa Water Treatment Plant. The In-County Credit for Hetch Hetchy water purchases is estimated at $407,000 for the year.

While the District has been anticipating increases in SBA water costs, the State has revised its estimates of future costs with an overall increase of about 9% from last year's projected amounts. This has resulted in an increased cost to the District of about $453,000 in fiscal year 1981-82 for SBA water. The State has further indicated that there will be additional increases in the projected payments for SBA water to cover their increasing costs of power, bonds, and new facilities.

• • • for the Current Year (1981-82)



*Values shown have been updated since publication of Budget.

Financial Projections . . .

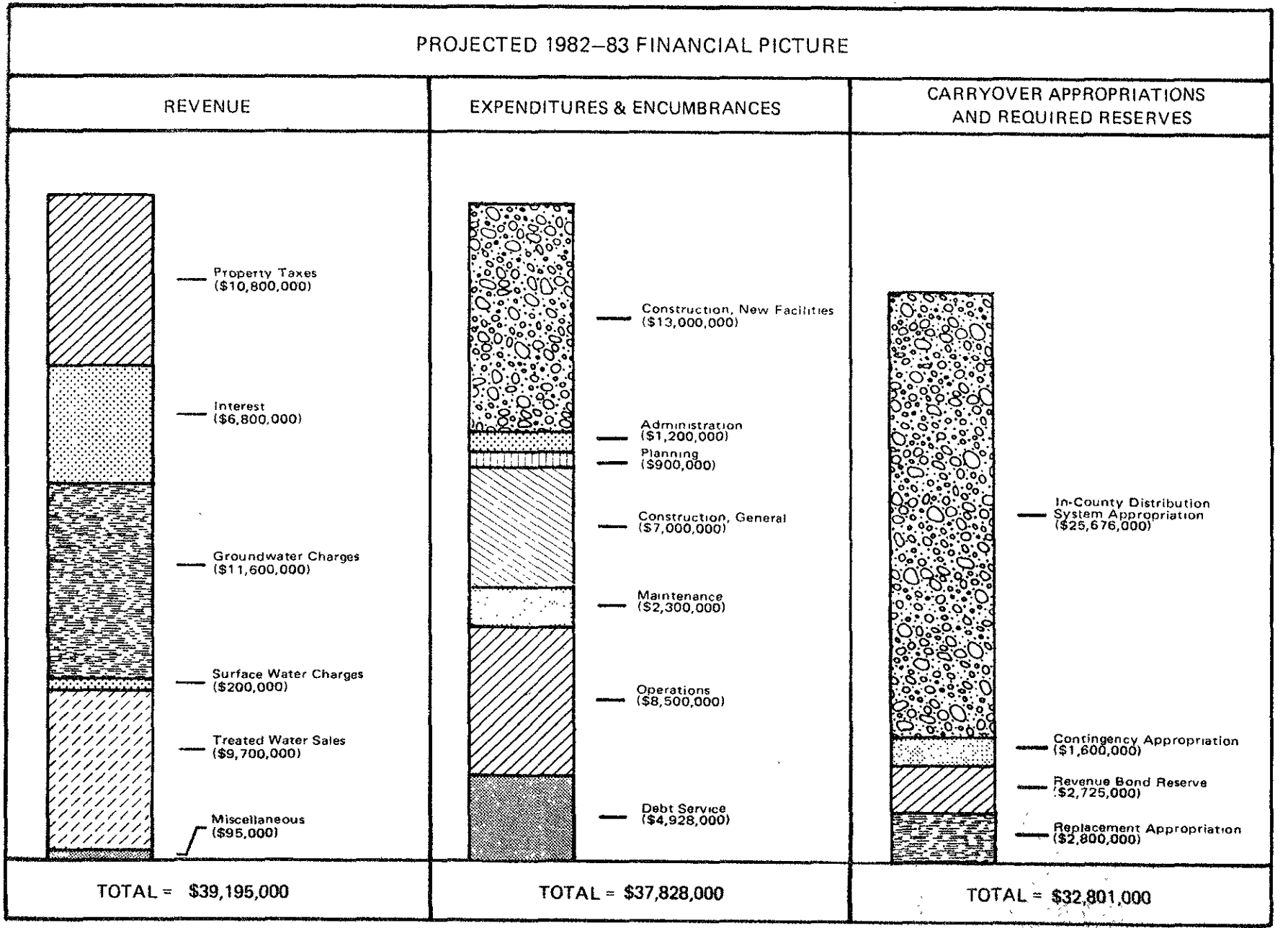
Projected revenue for 1982-83 is shown on the opposite page. The projected revenue is based on ground-water charges and basic user rates for groundwater extractions and raw surface water deliveries made in the later half of 1981-82, which are due and payable in 1982-83, of $70 per acre-foot of M&I water and $17.50 per acre-foot of Ag water. The rates for groundwater extractions and raw surface water deliveries made in the first half of 1982-83, which are due and payable in that year, and for treated water deliveries made throughout 1982-83 are $75 per acre-foot for M&I water and $18.75 per acre-foot for Ag water. The treated water surcharge rate is $65 per acre-foot. This treated water surcharge rate is for the second year of a three year rate schedule. The rate for next year is $70 per acre foot.

Projected revenue from taxes includes the one percent allocation ($3,500,000), the debt service taxes ($2,200,000) and the State Water Project Tax ($5,100,000). Revenue from the State Water Project Tax maintains the 1:2 tax reliance ratio of taxes to water charges that existed prior to passage of Proposition 13.

Expenditures projected for 1982-83 include costs for operations and maintenance of existing facilities including the State Department of Water Resources latest estimates costs for SBA water and for design and construction of new facilities. The 1982-83 debt service for the Series A and B Revenue Bonds is estimated at $2,743,000 and the 1982-83 In County Credit for Hetch Hetchy water purchases is projected at $300,000.

Major new facility costs are for construction of the third phase of the Cross Valley Pipeline ($8,500,000). Other new facility costs are for design of phase four of the Cross Valley Pipeline ($330,000) and purchase of lands for the West Reservoir and Maple Avenue recharge facilities ($4,000,000). A preliminary estimate of cost to increase the spillway capacity of Anderson Dam of $3,000,000 was included in the general construction costs for fiscal year 1982-83.

• • • for the Next Fiscal Year (1982-83)



Water Charges. . .

Groundwater charges and equivalent basic user rates levied for 1982-83 in Zones W-2, W-3.1, W-3.2, W-3.3, and W-3.5 are summarized in the table below. No groundwater charges were levied for Zones W-5 and W-6 and the District waived the requirement to report water production of wells in those zones next year. The countywide ad valorem State Water Project Tax will be levied to generate $5,100,000[1/] in 1982-83.

GROUNDWATER CHARGES[2/]
AND BASIC USER RATES
IN ZONES W-2, W-3.1, W-3.2, W-3.3, AND W-3.5
FOR
FISCAL YEAR 1982-83

Agricultural Water (Ag.)	$18.75/Acre-Foot
Nonagricultural Water (M&I)	$75.00/Acre-Foot

1/ Adopted by the Board of Directors through Resolution 82-19.

2/ Adopted by the Board of Directors through Resolution 82-17.

WATER RATE COMPONENTS AND WATER CHARGES FOR FISCAL YEAR 1982-83 1/

Components

COMPONENT	RATE
Basic User, Zones W-2, W-3.1, W-3.2, W-3.3, W-3.5	
Agricultural	$ 18.75/AF
Municipal and Industrial	75.00/AF
Basic User, Zones W-5, W-6	
Agricultural	0.00/AF
Municipal and Industrial	0.00/AF
Treated Water Surcharge	
Contract	65.00/AF
Noncontract	25.00/AF
Water Master	8.00/AF
Capital Cost	
Half Road Lateral System	2.75/AF
Power	
Half Road Lateral System	0.00/AF
Evergreen System	33.00/AF
Palo Alto Reclamation System	4.00/AF

Charges

TYPE OF CHARGE	AG WATER	M & I WATER
Groundwater		
Zones W-2, W-3.1, W-3.2, W-3.3, W-3.5	$ 18.75/AF	$ 75.00/AF
Zones W-5, W-6	0.00/AF	0.00/AF
Surface Water		
Evergreen Deliveries	59.75/AF	116.00/AF
Half Road Deliveries	10.75/AF	10.75/AF
Other Zone W-3 Deliveries	8.00/AF	8.00/AF
All Other Deliveries	26.75/AF	83.00/AF
Minimum Charge	53.00/YR	53.00/YR
Stored Water	18.75/AF	75.00/AF
Treated Water		
Contract	-	140.00/AF
Noncontract	-	100.00/AF
Reclaimed Water		
Palo Alto*	30.75/AF	87.00/AF
Gilroy	20.00/AF	80.00/AF

* Under the current Agreement with the City of Palo Alto, up to one million gallons per day is delivered for landscape irrigation use at a charge of $75.00/AF. In addition, up to 400,000 gallons per day would be delivered to the City of Palo Alto at no charge for its in-plant use.

1/ Adopted by the Board of Directors through Resolutions 81-25, 82-17 and 82-18.